

## DECISION RECORD

### DOI-BLM-NM-P010-2015-070-EA

Proposed Decision: It is my decision to implement the BLM-Preferred Alternative as described in DOI-BLM-NM-P010-2015-070-EA and to issue permit for the allotment analyzed in this document. The mitigation measures identified in the attached EA have been formulated into terms and conditions that will be attached to the grazing lease. This decision incorporates, by reference, those conditions identified in the attached Environmental Assessment. A summary table follows:

<b>Table 1</b>						
Allotment Name	Acres of Public Land	Acres of Private & State Land	% Public Land	Animal Units Authorized	Class of Livestock	Animal Unit Months
Bonney Canyon	1563.94	8815.79	100	32	Cattle	384
Bonney Canyon			100	1	Horse	12
	1563.94	8815.79	100	33		396

Rationale: Based on the rangeland health assessments (RHAs) and previous monitoring, resource conditions on this allotment are sufficient and sustainable to support the level of use outlined in the term grazing permit.

The Proposed Action will be in compliance with the 1997 Roswell Resource Management Plan and Record of Decision and the 2001 New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management.

If you wish to protest this proposed decision in accordance with 43 CFR 4160.2, you are allowed 15 days to do so in person or in writing to the authorized officer, after the receipt of this decision. Please be specific in your points of protest.

The protest shall be filed with the Field Manager, Bureau of Land Management, 2909 West 2<sup>nd</sup>, Roswell, NM 88201. This protest should specify, clearly and concisely, why you think the proposed action is in error.

In the absence of a protest within the time allowed, the above decision shall constitute my final decision. Should this notice become the final decision, you are allowed an additional 30 days within which to file an appeal for the purpose of a hearing before the Interior Board of Land Appeals, and to petition for stay of the decision pending final determination on the appeal (43 CFR 4.21 and 4.410). If a petition for stay is not requested and granted, the decision will be put

into effect following the 30-day appeal period. The appeal and petition for stay should be filed with the Field Manager at the above address. The appeal should specify, clearly and concisely, why you think the decision is in error. The petition for stay should specify how you will be harmed if the stay is not granted.

/s/ Kyle S. Arnold  
Kyle S. Arnold  
Assistant Field Manager

8/24/2015  
Date

**DOI-BLM-NM-P010-2015-0070-EA**

**FINDING OF NO SIGNIFICANT IMPACT:**

I have determined that the BLM Preferred Alternative (Alternative A), as described in the Environmental Assessment (EA) will not have any significant impact, individually or cumulatively, on the quality of the human environment. Because there would not be any significant impact, an environmental impact statement is not required. The NEPA handbook (p. 83) indicates that the FINDING OF NO SIGNIFICANT IMPACT (FONSI) must succinctly state the reasons for deciding that the action will have no significant environmental effects. It also recommends that the FONSI address the relevant context and intensity factors.

In making this determination, I considered the following factors:

1. The activities described in the BLM Preferred Alternative (Alternative A) do not include any significant beneficial or adverse impacts (40 CFR 1508.27(b)(1)). The EA includes a description of the expected environmental consequences of issuing a 10 year term grazing permit on Allotments 62082 & 620182.
2. The activities included in the proposed action would not significantly affect public health or safety (40 CFR 1508.27(b)(2)).
3. The proposed activities would not significantly affect any unique characteristics (40 CFR 1508.27(b)(3)) of the geographic area such as prime and unique farmlands, caves, wild and scenic rivers, designated wilderness areas or wilderness study areas.
4. The activities described in the proposed action do not involve effects on the human environment that are likely to be highly controversial (40 CFR 1508.27(b)(4)).
5. The activities described in the proposed action do not involve effects that are highly uncertain or involve unique or unknown risks (40 CFR 1508.27(b)(5)).
6. My decision to implement these activities does not establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration (40 CFR 1508.27(b)(6)).
7. The effects of issuing a ten year permit would not be significant, individually or cumulatively, when considered with the effects of other actions (40 CFR 1508.27(b)(7)). The EA discloses that there are no other connected or cumulative actions that would cause significant cumulative impacts.
8. I have determined that the activities described in the proposed action will not adversely affect or cause loss or destruction of scientific, cultural, or historical resources, including those listed in or eligible for listing in the National Register of Historic Places (40 CFR 1508.27(b)(8)). Cultural resource surveys in the allotment have been generally limited to inspections ahead of oil and gas related activities, such as well locations and pipelines. Many areas of the allotment have been generally inventoried for cultural resources. The existing cultural data for the allotment and adjacent areas seems to be a good example of what can be reasonably expected to occur in the remainder of the allotment. No site-specific situations are known to exist where current grazing practices conflict with cultural resource preservation and management. Some mitigation is included in the proposed action to protect cultural resources from

grazing practices, such as: "In the event that grazing practices are determined to have an adverse effect on cultural resources within the allotment, the BLM, in consultation with the permittee, will take action(s) to mitigate or otherwise negate the effects. This may include but is not limited to installing physical barriers to protect the affected cultural resources, relocating the livestock grazing practice(s) that is (are) causing the adverse effect(s), or any other treatment as appropriate. Pages 20-21 of the EA describe the affected environment and impacts of the proposed action and alternatives on cultural resources.

9. The proposed activities are not likely to adversely affect any endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act (40 CFR 1508.27(b)(9)). Within the allotment there are no known populations of threatened and endangered species, or designated critical habitat within the allotment.

10. The proposed activities will not threaten any violation of Federal, State, or local law or requirements imposed for the protection of the environment (40 CFR 1508.27(b)(10)). Page 9 of the EA describes the conformance with land use plans and relationships to statutes, regulations, or other plans.

**APPROVED:**

/s/ Kyle S. Arnold  
Kyle S. Arnold  
Assistant Field Manager, Resources

8/24/2015  
Date

# United States Department of the Interior Bureau of Land Management

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Environmental Assessment DOI-BLM-NM-P010-2015-0070-EA

## Issuance of Term Grazing Lease on Bonney Canyon, Allotment Number 63066

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U.S. Department of the Interior  
Bureau of Land Management  
Pecos District  
Roswell Field Office  
2909 West Second Street  
Roswell, NM 88201-2019  
Phone: (575) 627-0272  
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Roswell Field Office

### Confidentiality Policy

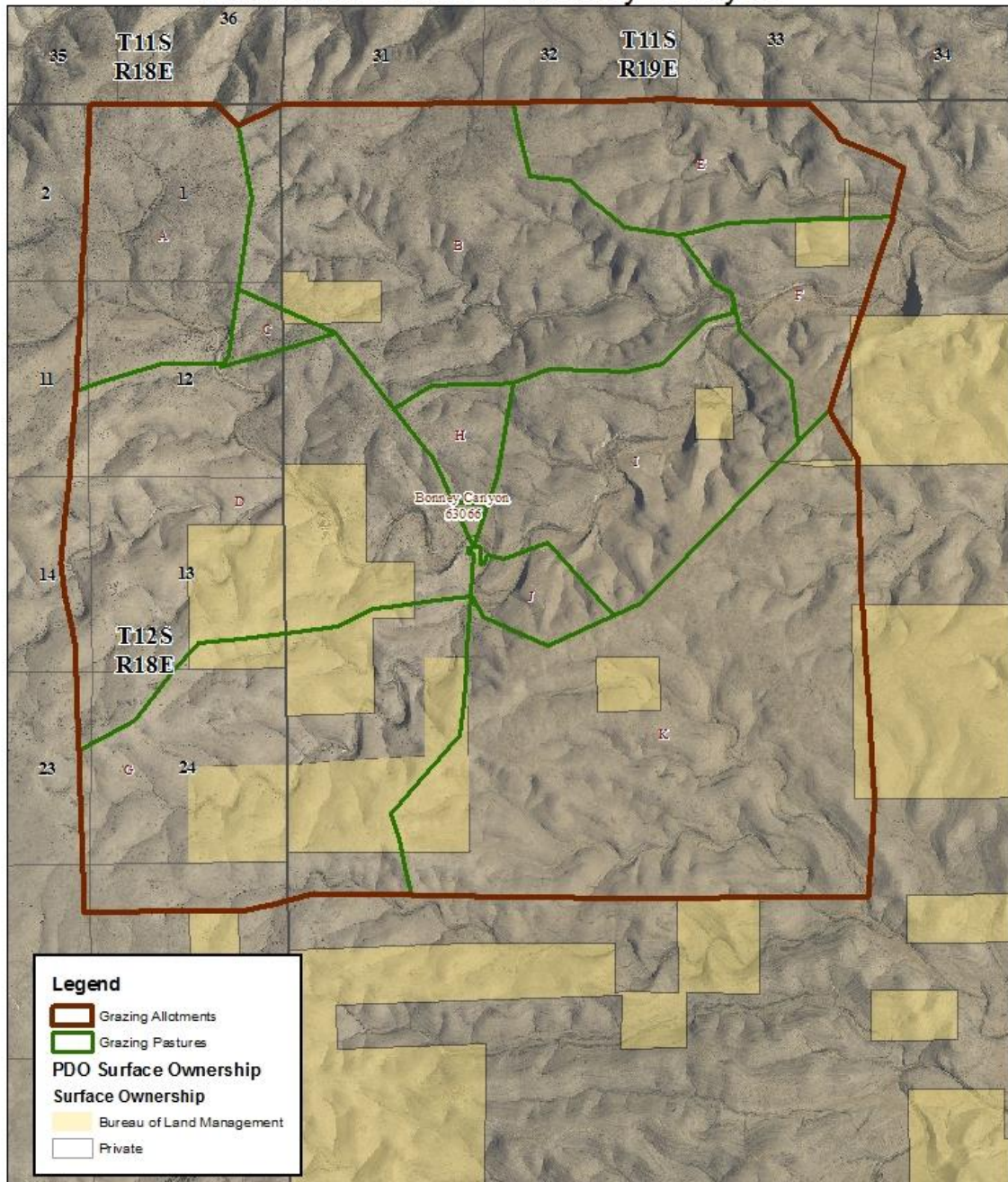
Any comments, including names and street addresses of respondents, that you submit may be made available for public review. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.



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## Allotment 63066 - Bonney Canyon



No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data, or for purposes not intended by the BLM. Spatial information may not meet National Map Accuracy Standards. This information is subject to change without notification.



0 0.4 0.8 1.6 Miles



## **1.0 Purpose and Need for Action**

### **1.1 Introduction**

This environmental assessment is limited to the effects of issuing a new grazing lease on allotment 63066, Bonney Canyon. Over time, the need could arise for subsequent management activities which relate to grazing authorization. These activities could include vegetation treatments (e.g., prescribed fires, herbicide projects), range improvement projects (e.g., fences, water developments), and others. Future rangeland management actions related to livestock grazing would be addressed in project specific NEPA documents as they are proposed.

Though this environmental assessment specifically addresses the impacts of issuing a grazing lease on the allotment, it does so within the context of overall BLM management goals. Allotment management activities would have to be coordinated with projects intended to achieve the allotment management goals. For example, a vegetation treatment designed to enhance watershed condition or wildlife habitat may require rest from livestock grazing for one or more growing seasons. Requirements of this type would be written into the permit as terms and condition.

To qualify for a grazing permit the 43 Code of Federal Regulation (CFR) Section 4100 §4110.2-1(a) the authorized officer shall find land or water owned or control by an applicant to be base property if: (1) It is capable of serving as a base of operation for livestock use of public lands within a grazing district; or (2) It is contiguous land that is capable of being used in conjunction with a livestock operation which would utilize public lands outside of a grazing district.

The public land within the Bonney Canyon allotment is located in the 130600080405 Bonney Canyon Watershed and the 130600090302-Upper Twin Butte Canyon Watershed in Lincoln County. The allotment is about 35 miles west of Roswell, south of US Hwy 70/380. See Location Map. Elevations range from about 5730 feet along the west side of the allotment to 5130 feet along the south east edge of the allotment.

The climate is semi-arid with normal annual temperatures ranging from 20°F to 95°F; extremes of 29° below zero to 103° are also possible. Average annual precipitation is approximately 13-16 inches in the form of rainfall and snow.

Preparing Office:  
Pecos District, Roswell Field Office  
2909 W. Second Street  
Roswell, NM 88201

### **1.2 Purpose and Need for Action**

The purpose of issuing a new grazing lease would be to authorize livestock grazing on public range on Allotment #63066 Bonney Canyon. The lease would be needed to specify the types and levels of use



authorized, and the terms and conditions of the authorization pursuant to 43 CFR §§4130.3, 4130.3 1, 4130.3 2, and 4180.1.

### **1.3 Decisions to be Made**

The Decisions to be made upon the completion of this Environmental Assessment are: to issue Grazing lease and authorize grazing on Allotment 63066, Bonney Canyon; to authorize the level of grazing on the allotment and to authorize the classes of livestock grazing on the allotment.

### **1.4 Conformance with Applicable Land Use Plan(s)**

The proposed action conforms to the 1997 Roswell Approved Resource Management Plan (RMP) and Record of Decision as amended; 2008 Special Status Species Resource Management Plan Amendment (2008 RMPA), and the 2000 New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management and Record of Decision as required by 43 CFR 1610.5 3.

### **1.5 Relationship to Statutes, Regulations or Other Plans**

The proposal to issue the livestock grazing permit on this allotment is in conformance with the 1994 Environmental Impact Statement for Rangeland Reform; the Federal Land Policy and Management Act of 1976 (FLPMA) (43 U.S.C. 1700 et seq.); the Taylor Grazing Act of 1934 (TGA) (43 U.S.C. 315 et seq.); the Public Rangelands Improvement Act of 1978 (PRIA) (43 U.S.C. 1901 et seq.); Federal Cave Resources Protection Act of 1988.

### **1.6 Scoping, Public Involvement, and Issues**

The Base property (private lands which are continuous or cornering on the public land), were acquired by a new individual, who then made application for the grazing lease. The BLM, Roswell Field Office ID team initially considered the action on July 29, 2015 and determined that BLM should move forward with consideration of issuing a new term grazing lease.

## 2.0 Proposed Action and Alternative(s)

Under Alternative A, the proposed action is to issue a term lease to graze cattle and horses on this allotment at the existing level of grazing. The permitted use is based on long term monitoring and rangeland conditions prior to 2015. Additionally a rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. If the proposed action is selected the Decision will be implemented to offer a new term grazing lease on the allotment at the end of the Protest & Appeal Period. See Table 1 below for details.

<b>Table 1</b>							
Allot #	Allotment Name	Acres of Public Land	Acres of Private & State Land	% Public Land	Animal Units Authorized	Class of Livestock	Animal Unit Months
63066	Bonney Canyon	1563.94	8815.79	100	32	Cattle	384
63066	Bonney Canyon			100	1	Horse	12
<b>TOTAL</b>		1563.94	8815.79	100	33		396

See Attached Map.

This allotment is managed as a Section 15 allotment, from Section 15 of the Taylor Grazing Act. This section covers those allotments which are outside of the Grazing District Boundary and generally contain small amounts of public land. On most Section 15 allotments, the Bureau of Land Management does not control the number of the livestock on the allotment, but does specify how many head the public land could support.

## 2.1 Alternatives Considered by Not Analyzed in Detail

Grazing with reduced numbers – BLM considered authorizing grazing with reduced numbers on this allotment. Grazing with reduced numbers would produce impacts similar to the proposed action. Additionally, this allotment meets the Standard for Public Land Health and monitoring studies do not indicate changes are necessary. Therefore, BLM will not analyze this alternative.

## 2.2 No Grazing Alternative

Under this alternative a new grazing lease would not be issued for the allotment. No grazing would be authorized on federal land on this allotment under this alternative. Under this alternative and based on the land status pattern within the allotments, approximately 16 miles of new fences would be required to exclude grazing on the federal land.

## 3.0 Affected Environment, Environmental Consequences, and Cumulative Impacts

During the analysis process, the interdisciplinary team considered several resources and supplemental authorities. The interdisciplinary team determined that the resources discussed below would be affected by the proposed action.

The following resources or values are not present or would not be affected by the authorization of livestock grazing on this allotment: Areas of Critical Environmental Concern (ACEC), Prime or Unique Farmland, Minority/Low Income Populations, Public Health and Safety, Realty, Geology, Fluid Minerals, Hazardous or Solid Wastes, Wild and Scenic Rivers, and Wilderness. As there is no public access to the public land, there are no recreational opportunities on this allotment.

Affected resources and the impacts resulting from livestock grazing are described below.

### 3.1 Soil / Water / Air

#### ➤ Climate

#### Affected Environment

Climate is the composite of generally prevailing weather conditions of a particular region throughout the year, averaged over a series of years. GHG's and the potential effects of GHG emissions on climate are not regulated by the EPA, however climate has the potential to influence renewable and non-renewable resource management.

Greenhouse gases, including carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>), and the potential effects of GHG emissions on climate, are not regulated by the EPA under the Clean Air Act. However, climate has the potential to influence renewable and non-renewable resource management. The EPA's Inventory of US Greenhouse Gas Emissions and Sinks found that in 2006, total US GHG emissions were over 6 billion metric tons and that total US GHG emissions have increased by 14.1% from 1990 to 2006. The report also noted that GHG emissions fell by 1.5% from 2005 to 2006. This decrease was, in part, attributed to the increased use of natural gas and other alternatives to burning coal in electric power generation.

The levels of these GHGs are expected to continue increasing. The rate of increase is expected to slow as greater awareness of the potential environmental and economic costs associated with increased levels of GHG's result in behavioral and industrial adaptations.

Global mean surface temperatures have increased nearly 1.0°C (1.8°F) from 1890 to 2006 (Goddard Institute for Space Studies, 2007). However, observations and predictive models indicate that average temperature changes are likely to be greater in the Northern Hemisphere. Without additional meteorological monitoring systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions, but increasing concentrations of GHGs are likely to accelerate the rate of climate change.

In 2001, the Intergovernmental Panel on Climate Change (IPCC) predicted that by the year 2100, global average surface temperatures would increase 1.4 to 5.8°C (2.5 to 10.4°F) above 1990 levels. The National Academy of Sciences (2006) supports these predictions, but has acknowledged that there are uncertainties regarding how climate change may affect different regions. Computer model predictions indicate that increases in temperature will not be equally distributed, but are likely to be accentuated at higher latitudes. Warming during the winter months is expected to be greater than during the summer, and increases in daily minimum temperatures is more likely than increases in daily maximum temperatures.

A 2007 US Government Accountability Office (GAO) Report on Climate Change found that, "federal land and water resources are vulnerable to a wide range of effects from climate change, some of which are already occurring. These effects include, among others: 1) physical effects such as droughts, floods, glacial melting, and sea level rise; 2) biological effects, such as increases in insect and disease infestations, shifts in species distribution, and changes in the timing of natural events; and 3) economic and social effects, such as adverse impacts on tourism, infrastructure, fishing, and other resource uses." It is not, however, possible to predict with any certainty regional or site specific effects on climate relative to the proposed permitted allotment and subsequent actions.

In New Mexico, a recent study indicated that the mean annual temperatures have exceeded the global averages by nearly 50% since the 1970's (Enquist and Gori). Similar to trends in national data, increases in mean winter temperatures in the southwest have contributed to this rise. When compared to baseline information, periods between 1991 and 2005 show temperature increases in over 95% of the geographical area of New Mexico. Warming is greatest in the northwestern, central, and southwestern parts of the state.

## **Impacts from the No Action (Proposed Action) Alternative**

### **Direct and Indirect Impacts**

Climate change analyses are comprised of several factors, including greenhouse gases (GHGs), land use management practices, the albino effect, etc. The tools necessary to quantify climatic impacts from the Proposed Action are presently unavailable. As a consequence, impact assessment of specific effects of anthropogenic activities cannot be determined. Additionally, specific levels of significance have not yet been established. Therefore, climate change analysis for the purpose of this document is limited to accounting and disclosing of factors that may contribute to climate change. Qualitative and/or quantitative evaluation of potential contributing factors within the planning area is included where appropriate and practicable.

## **Impacts from the No Grazing Action**

### **Direct and Indirect Impacts**

There will be no direct or indirect impacts to climate if a no grazing action is selected.

## **Cumulative Impacts of All Alternatives**

The incremental impact of issuing a grazing permit on climate resources must be analyzed in the context of impacts from other actions. Other BLM actions that could have impacts on the identified resources include: livestock authorization on other allotments in this area; oil and gas activities on the uplands;

rights-of way crossing the area; and recreation use, particularly off-highway vehicles. All authorized activities which occur on BLM land can also take place on state and private land.

Many of the actions which could contribute to cumulative impacts have occurred over many years. Impacts from open-range livestock grazing in the last century are still being addressed today. Oil and gas activities began in the early part of the 20th century. These activities are still occurring today, and are expected to continue into the foreseeable future to some degree.

If the No-Grazing Alternative were chosen, some adverse cumulative impacts on climate resources would be eliminated, but others would occur. Grazing would no longer be available as a vegetation management tool, and BLM lands within the allotment would be less intensively managed.

## **Mitigation Measures and Residual Impacts**

A rangeland health assessment has been completed and the allotments met the Standards for Public Land Health. Rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion which would decrease dust levels resulting from allotment management activities.

### **➤ Soils**

## **Affected Environment**

The Soil Conservation Service, now the Natural Resource Conservation Service (NRCS), has surveyed the soils in Lincoln County. Complete soil information is available in the Soil Survey of Lincoln County, New Mexico, (USDA Soil Conservation Service 1983) and online at <http://websoilsurvey.nrcs.usda.gov/app/>. The soil map units represented in the project area are:

Deama very cobbly loam, 0 to 15 percent slopes (11) Permeability is moderate. Runoff is rapid and the hazard of water erosion is high. The hazard of soil blowing is slight.

Deama-Rock outcrop association, very steep 15 to 50 percent slopes (14) Permeability is moderate. Runoff is rapid and the hazard of water erosion is high. The hazard of soil blowing is slight.

## **Impacts from the No Action (Proposed ) Alternative**

### **Direct and Indirect Impacts**

Under the No Action – Alternative A, the Proposed Alternative, livestock would remove some of the cover of standing vegetation and litter, and compact the soil by trampling. If livestock management were inadequate, these effects could be severe enough to reduce infiltration rates and increase runoff, leading to greater water erosion and soil losses (Moore et al. 1979, Stoddart et al. 1975). Producing forage and protecting the soil from further erosion would then be more difficult. The greatest impacts of removing vegetation and trampling would be expected in areas of concentrated livestock use, such as trails, waters, feeders, and shade.

Under Alternative A, rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion. Low/moderate forage quality plants provide protection to the soils resource.

## **Impacts from the No Grazing Action**

### **Direct and Indirect Impacts**

Under No-Grazing Alternative, any adverse impact from livestock grazing would be eliminated. However, it is possible that removing grazing animals from an area where they were a natural part of the landscape could result in poor use of precipitation and inefficient mineral cycling (Savory 1988). Bare soil could be sealed by raindrop impact, and vegetation could become decadent, inhibiting new growth. Therefore, the results of no grazing could be similar to those of overgrazing in some respects.

### **Cumulative Impacts of All Alternatives**

The incremental impact of issuing a grazing permit on soil resources must be analyzed in the context of impacts from other actions. Other BLM actions that could have impacts on the identified resources include: livestock authorization on other allotments in this area; water well development, rights-of way crossing the area; and recreation use, particularly off-highway vehicles. All authorized activities which occur on BLM land can also take place on state and private land.

Many of the actions which could contribute to cumulative impacts have occurred over many years. Impacts from open-range livestock grazing in the last century are still being addressed today. These activities are still occurring today, and are expected to continue into the foreseeable future to some degree.

If the No-Grazing Alternative were chosen, some adverse cumulative impacts would be eliminated to soil resources, but others would occur. Grazing would no longer be available as a vegetation management tool, and BLM lands within the allotment would be less intensively managed.

Cumulative long term monitoring data reflect the soils are being adequately protected.

### **Mitigation Measures and Residual Impacts**

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Continued rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion.

## **➤ Air Quality**

### **Affected Environment**

The Environmental Protection Agency (EPA) has the primary responsibility for regulating air quality, including seven nationally regulated ambient air pollutants. Regulation of air quality is also delegated to some states. Air quality is determined by atmospheric pollutants and chemistry, dispersion meteorology and terrain, and also includes applications of noise, smoke management, and visibility.

The allotment is in an area that is considered a Class II air quality area. A Class II area allows moderate amounts air quality degradation. The primary sources of air pollution are dust from blowing wind on disturbed or exposed soil and exhaust emissions from motorized equipment. Air quality in the area is generally good and is not located in any of the areas designated by the Environmental Protection Agency as “non-attainment areas” for any listed pollutants regulated by the Clean Air Act.

Air quality in the region is generally good, with winds averaging 10 to 16 miles per hour depending on the season. Peak velocities reach more than 50 miles per hour in the spring. These conditions rapidly disperse air pollutants in the region.

## **Impacts from the No Action (Proposed ) Alternative**

### **Direct and Indirect Impacts**

Air quality would temporary be directly impacted with pollution from enteric fermentation (ruminant livestock), chemical odors, and dust. Dust levels resulting from allotment management activities would be slightly higher under Alternative A than No-Grazing Alternative. The cumulative impact on air quality from the allotment would be negligible compared to all pollution sources in the region.

The federal Clean Air Act requires that air pollutant emissions be controlled from all significant sources in areas that do not meet the national ambient Air quality standards. The New Mexico Air Quality Bureau (NMAQB) is responsible for enforcing the state and national ambient air quality standards in New Mexico. Any emission source must comply with the NMAQB regulations. At the present time, the counties that lie within the jurisdictional boundaries of the Roswell Field Office are classified as in attainment of all state and national ambient air quality standards as defined in the Clean Air Act of 1972, as amended (USDI, BLM 2003b).

The Environmental Protection Agency (EPA), on October 17, 2006, issued a final ruling on the lowering of the National Ambient Air Quality Standard (NAAQS) for particulate matter ranging from 2.5 micron or smaller particle size. This ruling became effective on December 18, 2006, stating that the 24-hour standard for PM<sub>2.5</sub>, was lowered to 35 ug/m<sup>3</sup> from the previous standard of 65 ug/m<sup>3</sup>. This revised PM<sub>2.5</sub> daily NAAQS was promulgated to better protect the public from short-term particle exposure. The significant threshold of 35 ug/m<sup>3</sup> daily PM<sub>2.5</sub> NAAQS is not expected to be exceeded under the proposed action.

## **Impacts from the No Grazing Action**

### **Direct and Indirect Impacts**

There will be no direct or indirect impacts to air quality if a no grazing action is selected.

## **Cumulative Impacts of all Alternatives**

The incremental impact of issuing a grazing permit on air resources must be analyzed in the context of impacts from other actions. Other BLM actions that could have impacts on the identified resources include: livestock authorization on other allotments in this area; oil and gas activities on the uplands; rights-of way crossing the area; and recreation use, particularly off-highway vehicles. All authorized activities which occur on BLM land can also take place on state and private land.

Many of the actions which could contribute to cumulative impacts have occurred over many years. Impacts from open-range livestock grazing in the last century are still being addressed today. Oil and gas activities began in the early part of the 20th century. These activities are still occurring today, and are expected to continue into the foreseeable future to some degree.

If the No-Grazing Alternative were chosen, some adverse cumulative impacts on air resources would be eliminated, but others would occur. Grazing would no longer be available as a vegetation management tool, and BLM lands within the allotment would be less intensively managed.

## **Mitigation Measures and Residual Impacts**

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion which would decrease dust levels resulting from allotment management activities.

### **➤ Watershed Hydrology**

#### **Affected Environment**

The watershed and hydrology in the area is affected by land and water use practices. The degree to which hydrologic processes are affected by land and water use depends on the location, extent, timing and the type of activity. Factors that currently cause short-lived alterations to the hydrologic regime in the area include livestock grazing management, recreational use activities, groundwater pumping and also oil and gas developments such as well pads, permanent roads, temporary roads, pipelines, and power lines.

#### **Impacts from the No Action (Proposed) Alternative Direct and Indirect Impacts**

Livestock grazing management and range improvement projects can result in long-term and short-term alterations to the hydrologic regime. Peak flow and low flow of perennial streams, ephemeral, and intermittent rivers and streams would be directly affected by an increase in impervious surfaces resulting from the construction of range improvement projects. The potential hydrologic effects to peak flow is reduced infiltration where surface flows can move more quickly to perennial or ephemeral rivers and streams, causing peak flow to occur earlier and to be larger. Increased magnitude and volume of peak flow can cause bank erosion, channel widening, downward incision, and disconnection from the floodplain. The potential hydrologic effects to low flow is reduced surface storage and groundwater recharge, resulting in reduced baseflow to perennial, ephemeral, and intermittent rivers and streams. The direct impact would be that hydrologic processes may be altered where the perennial, ephemeral, and intermittent river and stream system responds by changing physical parameters, such as channel configuration. These changes may in turn impact chemical parameters and ultimately the aquatic ecosystem.



Long-term direct and indirect impacts to the watershed and hydrology would continue for the life of the livestock grazing management and range improvement projects and would decrease once reclamation of the range improvement projects has taken place. Short-term direct and indirect impacts to the watershed and hydrology from access roads that are not surfaced with material would occur and would likely decrease in time due to reclamation efforts.

Under Alternative A, the Preferred Alternative, rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the hydrologic regime. Low/moderate forage quality plants provide protection to the soils resource and hydrologic regime. Cumulative long-term monitoring data reflect the hydrologic regime is being adequately protected.

## **Impacts from the No Grazing Action**

### **Direct and Indirect Impacts**

Under the No-Grazing Alternative, any adverse impact from livestock grazing management and range improvement projects would be eliminated. However, it is possible that removing grazing animals from an area where they were a natural part of the landscape could result in poor use of precipitation and inefficient mineral cycling (Savory 1988). Bare soil could be sealed by raindrop impact, and vegetation could become decadent, inhibiting new growth. Therefore, the results of no grazing could be similar to those of overgrazing in some respects.

## **Cumulative Impacts of all Alternatives**

The incremental impact of issuing a grazing permit on watershed hydrology resources must be analyzed in the context of impacts from other actions. Other BLM actions that could have impacts on the identified resources include: livestock authorization on other allotments in this area; oil and gas activities on the uplands; rights-of way crossing the area; and recreation use, particularly off-highway vehicles. All authorized activities which occur on BLM land can also take place on state and private land.

Many of the actions which could contribute to cumulative impacts have occurred over many years. Impacts from open-range livestock grazing in the last century are still being addressed today. Oil and gas activities began in the early part of the 20th century. These activities are still occurring today, and are expected to continue into the foreseeable future to some degree.

If the No-Grazing Alternative were chosen, some adverse cumulative impacts on watershed hydrology resources would be eliminated, but others would occur. Grazing would no longer be available as a vegetation management tool, and BLM lands within the allotment would be less intensively managed.

## **Mitigation Measures and Residual Impacts**

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Continued rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion.

## **➤ Water Quality - Surface**

### **Affected Environment**

No perennial surface water is found on the Public Land on this allotment. Ephemeral stream occur on Public Land on these allotments.

### **Impacts from the No Action (Proposed) Alternative**

#### **Direct and Indirect Impacts**

Direct and indirect impacts to surface water quality would be minor, short-term impacts during stormflow events.

### **Impacts from the No Grazing Action**

#### **Direct and Indirect Impacts**

There will be no direct or indirect impacts to surface water quality if a no grazing action is selected.

### **Cumulative Impacts of all Alternatives**

The incremental impact of issuing a grazing permit on surface water resources must be analyzed in the context of impacts from other actions. Other BLM actions that could have impacts on the identified resources include: livestock authorization on other allotments in this area; oil and gas activities on the uplands; rights-of way crossing the area; and recreation use, particularly off-highway vehicles. All authorized activities which occur on BLM land can also take place on state and private land.

Many of the actions which could contribute to cumulative impacts have occurred over many years. Impacts from open-range livestock grazing in the last century are still being addressed today. Oil and gas activities began in the early part of the 20th century. These activities are still occurring today, and are expected to continue into the foreseeable future to some degree.

If the No-Grazing Alternative were chosen, some adverse cumulative impacts on surface water resources would be eliminated, but others would occur. Grazing would no longer be available as a vegetation management tool, and BLM lands within the allotment would be less intensively managed.

### **Mitigation Measures and Residual Impacts**

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion which would decrease dust levels resulting from allotment management activities.

## **➤ Water Quality - Ground**

### **Affected Environment**

Fresh water sources are located in the Quaternary Shallow Alluvial Aquifer and the Unconfined San Andres Aquifer. The approximate depth to water in area ranges from 35 to 100 feet in shallow alluvial aquifer and 400 to 600 feet in the San Andres Aquifer (New Mexico Office of the State Engineer Data).

## **Impacts from the No Action (Proposed) Alternative**

### **Direct and Indirect Impacts**

The proposed action of offering a grazing lease under Alternative A would not have a significant effect on ground water. Livestock would be dispersed over the allotment, and the soil would filter potential contaminants.

Under the Alternative A, the Proposed Alternative, rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect surface and groundwater. Low/moderate forage quality plants provide protection to the surface and groundwater. Cumulative long-term monitoring data reflect the surface and groundwater are being adequately protected.

## **Impacts from the No Grazing Action**

### **Direct and Indirect Impacts**

Under the No-Grazing Alternative, any adverse impact from livestock grazing would be eliminated. However, it is possible that removing grazing animals from an area where they were a natural part of the landscape could result in poor use of precipitation and inefficient mineral cycling (Savory 1988). Bare soil could be sealed by raindrop impact, and vegetation could become decadent, inhibiting new growth. Therefore, the results of no grazing could be similar to those of overgrazing in some respects.

## **Cumulative Impacts of All Impacts**

The incremental impact of issuing a grazing permit on groundwater resources must be analyzed in the context of impacts from other actions. Other BLM actions that could have impacts on the identified resources include: livestock authorization on other allotments in this area; oil and gas activities on the uplands; rights-of way crossing the area; and recreation use, particularly off-highway vehicles. All authorized activities which occur on BLM land can also take place on state and private land.

Many of the actions which could contribute to cumulative impacts have occurred over many years. Impacts from open-range livestock grazing in the last century are still being addressed today. Oil and gas activities began in the early part of the 20th century. These activities are still occurring today, and are expected to continue into the foreseeable future to some degree.

If the No-Grazing Alternative were chosen, some adverse cumulative impacts on groundwater resources would be eliminated, but others would occur. Grazing would no longer be available as a vegetation management tool, and BLM lands within the allotment would be less intensively managed.

## **Mitigation Measures and Residual Impacts**

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Rangeland monitoring would help ensure that adequate vegetation cover is maintained to

protect the soil from erosion which would decrease dust levels resulting from allotment management activities.

## **3.2 Archaeology**

### **➤ Cultural and Historical Resource**

#### **Affected Environment**

The allotment falls within the southeastern New Mexico archaeological region. This region contains the following cultural/temporal periods: Paleoindian (ca. 12,000-8,000 B.C.), Archaic (ca. 8000 B.C. –A.D. 950), Ceramic (ca. A.D. 600-1540) Protohistoric and Spanish Colonial (ca. A.D. 1400-1821), and Mexican and American Historical (ca. A.D. 1822 to early 20th century). Sites representing any or all of these periods are known to occur within the region. A more complete discussion can be found in *Living on the Land: 11,000 Years of Human Adaptation in Southeastern New Mexico; An Overview of Cultural Resources in the Roswell District*, Bureau of Land Management published in 1989 by the U.S. Department of the Interior, Bureau of Land Management.

Concerning cultural resources, grazing has the potential for impacts. The Roswell Field Office reviews the local office and NMCRIS databases for every grazing lease or leasing action at all levels of NEPA. In situations where sensitive sites lie within an allotment, site specific visits may be conducted to assess the presence of effects.

Although no surveys or sites have been identified within this allotment, the adjacent allotment south (allotment 63063) has had block surveys conducted within the boundaries, of which one borders the southern edge of allotment 63066. Only three sites were identified within a half mile of allotment 63066's boundary. These results are expected to be representative of the cultural resources within allotment 63066 and, currently, there is no evidence that grazing activities at this intensity have adversely impacted any cultural resources

#### **Impacts from the No Action (Proposed) Alternative**

##### **Direct and Indirect Impacts**

Impacts include artifact and site disturbance by cattle trampling and congregation.

## **Impacts from the No Grazing Action Direct and Indirect Impacts**

Impacts include artifact and site disturbance by cattle trampling and congregation.

## **Cumulative Impacts of all Alternatives**

There are no cumulative impacts at this time.

## **Mitigation Measures and Residual Impacts**

There are no mitigation measures or residual impacts at this time.

## **➤ Native American Religious Concerns**

### **Affected Environment**

Native American groups may have places that can be described as Traditional Cultural Properties or other places that are important to their religions or cultures. The BLM uses the New Mexico Department of Cultural Affairs list of tribes/nations/pueblos concerned for individual counties to determine which of these groups may have concerns. Additionally, the BLM conducts tribal consultation while preparing planning documents such as the Resource Management Plan and Resource Management Plan Addendums. To date, the areas to be affected have not been identified by interested tribes as being of tribal concern and a review of existing information indicates the allotment is outside any known Traditional Cultural Property.

## **Impacts from the No Action (Proposed) Alternative Direct and Indirect Impacts**

There are no direct or indirect impacts to Native American Religious Concerns at this time.

## **Impacts from the No Grazing Action Direct and Indirect Impacts**

There are no direct or indirect impacts to Native American Religious Concerns at this time.

## **Cumulative Impacts of all Alternatives**

There are no cumulative impacts to Native American Religious Concerns at this time.

## **Mitigation Measures and Residual Impacts**

There are no mitigation measures or residual impacts to Native American Religious Concerns at this time.

## 3.3 Range

### ➤ Vegetation

#### Affected Environment

The allotment is comprised of one major vegetation community type arranged in a mosaic over the allotment. Mixed grasslands with interspersed shrubs and half shrubs; and grassland savannah communities dominate. Perennial and annual forb production fluctuates widely from year to year. General objectives or guidelines for each vegetation community are described in the Roswell Approved RMP and Record of Decision (BLM 1997) and the Roswell Draft RMP/EIS (BLM 1994). The major community type is Pinon-Juniper Community.

The primary consideration in listing range sites under this community type is topography influenced by higher hills and mountains with juniper, pinon or mountain mahogany in the description of the potential plant community.

The pinon/juniper community type is typically found in the mountain slopes and rolling foothills in the west half of the resource area. Smaller areas are scattered in the lower elevations, intermingled with the shortgrass habitat type. Slopes range from 15 to 75 percent, averaging 20 to 30 percent. The average elevation is from 4,500 feet to 7,500 feet.

The majority of the community type occurs at Fort Stanton, where an intermingling of several other habitat types can be found. These include the riparian/wetland, drainages/draws/canyons and grassland types. The overstory is dominated by oneseed juniper, pinon pine, and alligator juniper. Ponderosa pine can be found in protected canyons bottoms and along the Rio Bonito. The shrubby understory includes wavyleaf oak, little leaf sumac, mountain mahogany, algerita and fourwing saltbush. Forbs and grasses are represented by such species as wild buckwheat, sagewort, greenthread, sideoats grama, blue grama, creeping muhly, wolftail, fescue and wheatgrass.

Approximately 29 percent (143) of the wildlife species in the resource area use this community type. Faunal diversity is high, reflecting the vegetational and structural diversity of the pinon/juniper complex contribution to the diversity of wildlife species.

The Rangeland Health assessment notes few invasive plants, most notably juniper, yucca and cholla. The Rangeland Health assessment for the allotment can be viewed at the Roswell Field Office. A rangeland monitoring study have been established in a key area within the allotment. These permanent sites are used to track vegetation changes and to determine proper stocking rates. Table 2 below lists the key areas, identified by the vegetation ID number, within each allotment as well as the ecological site associated with each key area. These sites are used to track vegetation changes and to determine proper stocking rates.

<b>Table 2. Key Areas</b>		
ALLOTMENT NAME and NUMBER <i>Pasture Name</i>	KEY AREA	ECOLOGICAL SITE
Bonney Canyon		
<i>Bonney Canyon</i>	A120	Limestone Hills CP-3

The description for these ecological sites was developed by the Soil Conservation Service (now referred to as the Natural Resource Conservation Service) in their ecological site guides. Ecological site descriptions are available for review at the Roswell BLM office, any Natural Resources Conservation Service office or accessed at [www.nm.nrcs.usda.gov](http://www.nm.nrcs.usda.gov).

From 1978 to current times agencies are using the traditional range condition methodology to depict range condition. This compared collected rangeland monitoring information with the potential vegetation community in terms of species composition by weight. The rating is based on a scaled of 0 to 100 with 100 being the actual representative site.

Rangeland Health Assessment data was collected in fiscal year 2015. Analysis of the rangeland health assessments indicates that all three indicators (biotic, hydrology, and soils) have been met for the allotment.

## **Impacts from the No Action (Proposed) Alternative**

### **Direct and Indirect Impacts**

Under Alternative A the vegetation in the Pinon Juniper community will continue to be grazed and trampled by domestic livestock as well as other herbivores. The area has been grazed by livestock since the early part of the 1900's, if not longer. Ecological condition and trend is expected to remain stable and/or improve over the long term at the leased number of livestock.

Upland sites would reflect a static ecological condition trend at the existing lease level. Some grassland areas would remain static due to the influence of juniper and yucca. In the long term juniper treatments may be necessary to ebb the encroachment onto historical grassland sites.

Range monitoring data indicate that the vegetation is sustainable to meet multiple resource requirements and forage at the permitted use level under the Alternative A, Proposed Action. Data indicate that livestock grazing is compatible with vegetation cover and composition objectives. In addition to the static trend in ecological condition, monitoring data show the vegetative resources have been maintained and sustained since monitoring began in 1981.

## **Impacts from the No Grazing Action**

### **Direct and Indirect Impacts**

Under the No-Grazing Alternative, no impacts to vegetation resources would occur on public lands from authorized livestock grazing. Vegetation cover would increase over the long term in some areas. Grasslands in the uplands would increase in cover and composition, but composition would be tempered by creosote or mesquite somewhat dominating the shrub component. Spike dropseed would,

in the short term, increase in cover and composition but would then taper off in the long term, becoming decadent from the lack of standing vegetation removal by grazing.

## **Cumulative Impacts of All Alternatives**

Excluding livestock or reducing stocking rates could benefit vegetation in the short term, in those areas proposed for livestock grazing restrictions. Eliminating livestock grazing pressure would allow plants to regain vigor and would increase forage production in the short term. An overall increase in the density of vegetation could occur, followed by a subsequent increase in vegetative litter. In the long term, vegetative production would decline slightly as litter builds up and plants become decadent. Increased litter would indirectly benefit vegetation by slowing precipitation runoff and holding moisture on the ground for longer periods. Properly managed grazing would be beneficial because it stimulated plant growth in healthy vegetative communities.

## **Mitigation Measures and Residual Impacts**

Vegetation monitoring studies will continue if a new grazing lease was issued under the Proposed Action. Changes to livestock management would be made if monitoring data showed adverse impacts to the vegetation.

### **➤ Livestock Grazing**

## **Affected Environment**

In the past, this allotment has been permitted to be grazed yearlong by cattle. Generally there are only enough horses authorized to work stock. The lease authorized 33 Animal Units (AUs). This is the equivalent of 13.5 head per section.

The allotments contain about 1,564 acres of public land (see Location Map) and 8,816 acres of private and state land. Public landownership is intermingled with private land. Current range improvement projects for the management of livestock include earthen tanks, wells, and several drinking troughs with associated pipelines, pasture and boundary fences and corrals.

## **Impacts from the No Action (Proposed) Alternative**

### **Direct and Indirect Impacts**

Under Alternative A, Proposed (No Action) Alternative, livestock would continue to graze public lands within the allotments. Existing pasture configurations and water developments would remain the same. Livestock management would still follow the single-herd rotation system or in dry conditions would be scattered across the allotment.



## **Impacts from the No Grazing Action**

### **Direct and Indirect Impacts**

Under No-Grazing Alternative, there would be no livestock grazing authorized on public lands. The public lands would have to be fenced apart from the private lands or livestock would be considered in trespass if found grazing on public land (43 CFR 4140.1(b)(1)). Exclusion of livestock from the public land would require approximately 16 miles of new fence at an approximate cost of \$72,000.00 (\$4,500/mile). This expense would be borne by the private landowners. Range improvements on public land would not be maintained and the BLM would have to compensate the permittee/lessee if any of the improvements were cost shared at the time of their authorization.

Under No-Grazing Alternative, the overall livestock operation could be reduced by 33 AUs (those attached to the public lands). This would have an adverse economic impact on the leasee and Lincoln County would lose the tax revenue for the stock associated with the public lands.

### **Cumulative Impacts of all Alternatives**

The incremental impact of issuing a grazing lease on these resources must be analyzed in the context of impacts from other actions. Other BLM actions that could have impacts on the identified resources include: livestock authorization on other allotments in the area, oil and gas activities on the uplands, rights-of-way crossing the area and recreational use, particularly off-highway vehicles. All authorized activities which occur on BLM land can also take place on state or private lands.

Many of the actions which could contribute to cumulative impacts have occurred over many years. Impacts from open-range livestock grazing in the last century are still being addressed today. Oil and gas activity began in the early part of the 20th century. These activities are still occurring today, and are expected to continue into the foreseeable future.

The analysis of cumulative impacts is driven by major resource issues. The proposed action is the authorization of livestock grazing on this allotment. The cumulative impacts to this allotment and adjacent allotments are insignificant.

### **Mitigation Measures and Residual Impacts**

If new information surfaces that livestock grazing is negatively impacting other resources, action will be taken at that time to mitigate those impacts.

Cumulative impacts of the grazing and no grazing alternatives were analyzed in Rangeland Reform '94 Draft Environmental Impact Statement (BLM and USDA Forest Service 1994) and in the Roswell Resource Area Draft RMP/EIS (BLM 1994). The "no livestock grazing alternative" was not selected in either document. If the No Grazing Alternative were chosen, some adverse cumulative impacts would be eliminated, but other would occur. Grazing would be no longer available as a vegetative management tool, and BLM lands within the allotments would be less intensively managed.

Residual impacts are direct, indirect or cumulative impacts that would remain after applying the mitigation measures. Residual impacts following authorizing livestock grazing would be insignificant if the mitigation measures are properly applied.

## ➤ Invasive, Non-Native Species

### **Affected Environment**

There are (or are not any known populations of noxious weeds on this allotment.

### **Impacts from the No Action (Proposed) Alternative**

#### **Direct and Indirect Impacts**

Noxious weeds affect both crops and native plant species in the same way, by out-competing for light, water and soil nutrients. Losses are attributed to decreased quality and quantity of agricultural products due to high levels of competition from noxious weeds and infestations. Noxious weeds can negatively affect livestock productivity by making forage unpalatable to livestock thus decreasing livestock productivity and potentially increasing producer's feed costs.

### **Impacts from the No Grazing Action**

#### **Direct and Indirect Impacts**

While the vector of livestock would be removed under this alternative, noxious weed populations would still have the potential to become established, generally through vehicular traffic or seed movement carried by wildlife, wind or dust. Once established, noxious weeds would compete with the vegetation, reducing the habitat for wildlife.

### **Cumulative Impacts of All Alternatives**

Infestations of noxious weeds can have a potentially disastrous impact on biodiversity and natural ecosystems. In order to combat the negative effects of noxious weeds on crop lands, grazing lands and waterways, herbicidal and other weed control strategies can be implemented at further costs to producers and government agencies. Such costs would then likely be passed down to consumers, who would pay more for products due to increased producer costs.

### **Mitigation Measures and Residual Impacts**

A rangeland health assessment has been completed and the allotment meets the *Standards for Public Land Health*. Continued rangeland monitoring would help ensure that adequate vegetation cover is maintained and that any noxious weed populations are noted, mapped and treated to reduce or eliminate the population.

## 3.4 Wildlife Biology

### ➤ Threatened or Endangered Species

#### Affected Environment

There are no known threatened or endangered species of plant or animals on Allotment 63066. A list of federal threatened, endangered and candidate species reviewed for this EA can be found in Appendix 11 of the Roswell Approved RMP (AP11-2). There are no designated critical habitat areas within this allotment. Habitat for wintering bald eagles would not have significant negative impacts by the proposed action, and continued livestock grazing, since riparian habitats and suitable or active roosting sites are present in the nearby areas.

### ➤ Wildlife

#### Affected Environment

The allotment provides a variety of habitat types for terrestrial wildlife species. The diversity and abundance of wildlife species in the area is due to the presence of a mixture of grassland, mixed desert shrub and drainage and draws habitats.

Numerous avian species use the area during spring and fall migration, including non-game migratory birds. Common bird species are mourning dove, mockingbird, white-crowned sparrow, black-throated sparrow, blue grosbeak, northern oriole, western meadowlark, Crissal thrasher, western kingbird, northern flicker, common nighthawk, loggerhead shrike, and roadrunner. Raptors include northern harrier, Swainson's hawk, American kestrel, and occasionally golden eagle and ferruginous hawk.

Common mammal species using the area include mule deer, pronghorn, coyote, gray fox, bobcat, striped skunk, porcupine, raccoon, badger, jackrabbit, cottontail, white-footed mouse, deer mouse, grasshopper mouse, kangaroo rat, spotted ground squirrel, and woodrat. There are karst features on the allotment which provide habitat for several bat species. Resident bats in the area tend to be Townsend's Western Big-eared, Cave Myotis, Small-footed Bat and Mexican Freetail. None of these bat species are threatened or endangered.

A variety of herptiles also occur in the area such as yellow mud turtle, box turtle, eastern fence lizard, side-blotched lizard, horned lizard, whiptail, hognose snake, coachwhip, gopher snake, rattlesnake, and spadefoot toad.

### Impacts from the No Action (Proposed) Alternative

#### Direct and Indirect Impacts

Under the Proposed Action (No Action), livestock grazing management and range improvement projects designed with consideration for wildlife would generally enhance the quality of wildlife habitat. Vegetation condition, forage production, and habitat diversity would improve, and wildlife species distribution and abundance would increase.

The construction of livestock waters in previously unwatered areas would promote increased wildlife distribution and abundance, but may potentially increase grazing pressure in those same areas. Short-term impacts of range improvement projects would be the temporary displacement of wildlife species during construction activities. Maintenance and operation of existing waterings will continue to provide dependable water sources for wildlife, as well as livestock.

The permitted use as described in the Proposed Action (No Action) is not anticipated to have any adverse impacts to wildlife forage and availability. In general, livestock stocking rate adjustments have been made in the past to minimize the direct competition for those vegetative resources needed by a variety of wildlife species. Cover habitat for wildlife will remain the same as the existing situation. It is expected that no new impacts to wildlife habitat would occur from authorized livestock grazing with cattle.

A long term benefit to wildlife movement may occur as netwire fencing no longer needed and would eventually be replaced, in part or all, with 4-strand barbed wire/smooth wire fences and passes. Grazing permits which continue to authorize sheep animal units would continue to impact wildlife movement patterns, specifically for pronghorn antelope and mule deer, due to the continued use of restrictive netwire fencing.

## **Impacts from the No Grazing Action**

### **Direct and Indirect Impacts**

Under the No-Grazing Alternative, there would no longer be direct competition between livestock and wildlife for forage, browse and cover. Wildlife habitat would moderately improve. The limitation for improvement would continue to be the inability to control livestock use of the parcels because of the expense of segregating the lands with fencing, and legal access to administer isolated parcels of public land. Since livestock grazing would not be leased, range improvement projects that benefit wildlife, such as water developments, would be abandoned. New range improvement projects that would also benefit wildlife habitat, such as brush control, may not be implemented because these projects are primarily driven and funded through range improvement efforts.

### **Cumulative Impacts of all Alternatives**

The majority of land in this area is currently grazed by livestock, continuing a tradition and way of life that has been going on for at least 100 years. Authorizing livestock grazing on this allotment contributes to the overall cumulative impact of livestock grazing in the region but is diluted by the fact that this practice is historic use with vegetation changes having already shifted by livestock grazing and vegetation manipulation. With proper grazing management which considers wildlife needs, and maintenance of plant communities that support the variety of wildlife in the area, it is expected to be a positive cumulative impacts contribution of improving the condition of habitat through proper management.

As livestock grazing is the predominant land use over the landscape, most cumulative effects are added to this existing use. New developments such as oil and gas exploration and development, various energy-related rights-of-way, recreational use and other resource uses on the landscape likely contribute more to cumulative impacts than the long-standing livestock grazing impact.

Under the No Grazing alternative for the allotment considered under this EA, beneficial cumulative impacts to the plant communities over the landscape may occur in the long-term with no grazing because of the amount of public land acreage involved. Wildlife species diversity may increase but would be tempered by the loss of water developments and some grazing disturbances needed to keep vegetation invigorated.

## **Mitigation Measures and Residual Impacts**

The general mitigation for permitting of livestock grazing on public lands include an allocation of vegetation resources for wildlife habitat maintenance and a diversity of wildlife species. The following general mitigation measures are typically applied to associated livestock operational developments.

- Implementation of a rest-rotation system
- Non-Use during periods of drought
- Installation of wildlife escape ramps in watering facilities
- Yearlong supply of water at watering facilities
- Modification of existing fences to enhance wildlife movement, especially netwire fences
- Vegetation treatments to meet Desired Plant Community goals and objectives
- Growing season rest after vegetation treatments

Pursuant to Federal Register Notices, all known Roswell Field Office hibernacula are temporarily closed to public entry to monitor for the presence of WNS and attempt to prevent its spread if it arrives. Any proposed entry whatsoever of these hibernation sites on BLM-managed public land must be formally proposed to BLM.

## **3.5 Visual Resources**

### **Affected Environment**

The setting presents an winter gray color pattern, and in warm months, with foliage, a gray to gray-green color pattern. Wide-area landscape tends to be horizontal in line and flat in form, with a smooth texture. The allotment is in a Class IV area for visual resources management. The proposed actions are located within a designated VRM Class IV area. The objective of Class IV is to: "Provide for management activities which require major modification of the existing landscape character...Every attempt, however, should be made to reduce or eliminate activity impacts through careful location, minimal disturbance, and repeating the basic landscape elements."

### **Impacts from the No Action (Proposed) Alternative** **Direct and Indirect Impacts**

The basic landscape elements of form, line color and texture would not change within the allotment under any management alternative. Potential impacts to visual resources would be analyzed and mitigated as allotment management activities are proposed in the future.

## **Impacts from the No Grazing Action**

### **Direct and Indirect Impacts**

The basic landscape elements of form, line color and texture would not change within the allotment under any management alternative. Potential impacts to visual resources would be analyzed and mitigated as allotment management activities are proposed in the future.

### **Cumulative Impacts of All Alternatives**

The analysis of cumulative impacts is driven by major resource issues. The proposed action is the authorization of livestock grazing on this allotment. The cumulative impacts to this and adjacent allotments are insignificant.

### **Mitigation Measures and Residual Impacts**

Range facilities such as windmills and fences tend to be a translucent grey in color and blend favorably with grey and grey-green settings. To further blend favorably with the setting facilities would be painted a flat grey-green color, Oil Green (Pantone Formula 17-0115 TPX).

## **3.6 Cave and Karst**

### **Affected Environment**

The allotment is located in gypsum karst terrain, a landform that is characterized by underground drainage through solutionally enlarged conduits. Gypsum karst terrain may contain sinkholes, sinking streams, caves, and springs. Sinkholes leading to underground drainages and voids are common. These karst features, as well as occasional fissures and discontinuities in the bedrock, provide the primary sources for rapid recharge of the groundwater aquifers of the region.

The BLM categorizes all areas within the Roswell Field Office as having either low, medium, high potential based on geology, occurrence of known caves, density of karst features, and potential impacts to fresh water aquifers. This project occurs within a Medium karst zone and at least one known cave is located on this allotment. The area has not been extensively surveyed for known cave(s) or karst feature(s). Unknown features may exist. A Medium karst zone is defined as an area in known soluble rock types but may have a shallow insoluble overburden. These areas may contain isolated karst features such as caves and sinkholes. Groundwater recharge may not be wholly dependent on karst features but the karst features still provide the most rapid aquifer recharge in response to surface runoff.

Sinkholes and cave entrances collect water and can accumulate rich organic materials and soils. This, in conjunction with the stable microclimate near cave entrances, support a greater diversity and density of plant life which provides habitat for a greater diversity and density of wildlife such as raptors, rodents, mammals, and reptiles.

The interior of the caves support a large variety of troglobitic, or cave environment-dependent species. The troglobitic species have adapted specifically to the cave environment due to constant temperatures, constant high humidity, and total darkness.

## **Impacts from the No Action (Proposed) Alternative**

### **Direct and Indirect Impacts**

Cave and karst features provide direct conduits leading to groundwater. These conduits can quickly transport surface and subsurface contaminants directly into underground water systems and freshwater aquifers without filtration or biodegradation. In addition, contaminants spilled or leaked into or onto cave/karst zone surfaces and subsurfaces may lead directly to the disruption, displacement, or extermination of cave species and critical biological processes.

In cave and karst terrains, rainfall and surface runoff is directly channeled into natural underground water systems and aquifers. Changes in runoff quantity/quality, drainage course, rainfall percolation factors, vegetation, surface contour, and other surface factors can negatively impact cave ecosystems and aquifer recharge processes. Focusing of surface drainages can lead to slow subsidence, sudden collapse of subsurface voids, and/or cave ecosystem damage.

BLM maintains up to date locations and surveys of known cave and karst features. Any projects will be located away from these features whenever possible.

## **Impacts from the No Grazing Action**

### **Direct and Indirect Impacts**

Under the No-Grazing Alternative, no impacts to cave and karst resources would occur on public lands from authorized livestock grazing.

### **Cumulative Impacts**

The analysis of cumulative impacts is driven by major resource issues. The proposed action is issuing a new grazing lease on allotment 63066, Bonney Canyon. Over time, the need could arise for subsequent management activities which relate to grazing authorization. These activities could include vegetation treatments (e.g., prescribed fires, herbicide projects), range improvement projects (e.g., fences, water developments), and others. Future rangeland management actions related to livestock grazing would be addressed in project specific NEPA documents as they are proposed.

The incremental impact of constructing fences and other range improvements on cave and karst resources must be analyzed in the context of impacts from other actions. Other BLM actions that could have impacts on the identified resources include: livestock authorization on other allotments in the area, oil and gas activities on the uplands, rights-of-way crossing the area and recreational use, particularly off-highway vehicles. All authorized activities which occur on BLM land can also take place on state or private lands.

The cumulative impacts to cave and karst resources from this proposed action is insignificant.

## **Mitigation Measures and Residual Impacts**

Livestock grazing could be affected by the presence of karst features if livestock became entrapped in deep sinkholes, which has occurred with sheep grazing on karst land north of Roswell. This could be prevented by creating exclosures around identified karst features that pose a hazard to livestock. In the event that range improvement projects are proposed, the presence of karst features would be further analyzed in related environmental assessments.

If new information surfaces that livestock grazing is negatively impacting cave and karst resources, action will be taken at that time to migrate those impacts.

The allotment is located within a designated area of Low Karst or Cave Potential. An inventory of significant cave or karst features has not been completed for public land located in this grazing allotment. The caprock has deep cracks and cave-like features but it is not karst.

Any cave or karst feature or karst-like feature, such as a blowhole or sinkhole, discovered by the co-operator/contractor or any person working on the co-operator/contractor behalf, on BLM-managed public land shall be immediately reported to the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate action(s). Any decision as to the further mitigation measures will be made by the Authorized Officer after consulting with the co-operator/contractor.

## **3.7 Paleontology**

### **Affected Environment**

The BLM manages paleontological resources for their scientific, educational, and recreational values in compliance with the Paleontological Resources Preservation Act (PRPA) of 2009. The PRPA affirms the authority for many of the policies the Federal land managing agencies already have in place for the management of paleontological resources such as issuing leases for collecting paleontological resources, curation of paleontological resources, and confidentiality of locality data. The statute provides authority for the protection of paleontological resources on Federal lands including criminal and civil penalties for fossil theft and vandalism.

The BLM classifies geologic formations to indicate the likelihood of significant fossil occurrence (usually vertebrate fossils of scientific interest) according to the Potential Fossil Yield Classification (PFYC) System for Paleontological Resources on Public Lands (IM 2008-011). These classifications, Classes 1 to 5, determine the procedures to be followed prior to granting a paleontological clearance to proceed with a project.

All paleontological resource stipulations will be followed as indicated in the attached COAs. These stipulations may include, but are not limited to, altering the location or scope of the project, permanent fencing or other physical, temporary barriers, monitoring of earth disturbing construction, project area reduction or specific construction avoidance zones, and fossil recovery. If the assessment of proposed action indicates a reasonable expectation of adverse impacts to significant paleontological resources, a field survey will be necessary to properly document and recover any fossil material and associated data. Upon review, a determination for final project clearance and stipulations shall be issued by the BLM RFO.



The project area is designated as a Class 2 area (San Andres Formation). Ground disturbing activities are not likely to disturb paleontological resources in this area.

## **Impacts from the No Action (Proposed) Alternative**

### **Direct and Indirect Impacts**

The Potential Fossil Yield Classification (PFYC) data indicate the Proposed Action is within an area designated as Class II. The Proposed Action would not affect any known scientifically significant paleontological resources, however, surface disturbing activities and increased human access could produce unexpected discoveries and potential paleontological resource damage. Direct impacts could include damage or destruction during construction, with subsequent loss of information. Indirect impacts would include fossil damage or destruction by erosion due to surface disturbance.

## **Impacts from the No Grazing Action**

### **Direct and Indirect Impacts**

By not approving the project under the No Action Alternative, there would be no impact to paleontological resources in the area.

## **Cumulative Impacts of All Alternatives**

While it likely that there will be no significant cumulative impact from the proposed action, surface-disturbing activities in this area may potentially have negative cumulative impacts on paleontological resources.

## **Mitigation Measures and Residual Impacts**

If previously undocumented paleontological sites are encountered during surface disturbing activities, the project proponent will immediately stop all surface disturbing activities in the immediate vicinity of the discovery. The proponent will then immediately notify the paleontological monitor (if required) or the BLM RFO paleontology resource staff. It is necessary to protect fossil material and their geological context upon discovered during surface disturbing activities. The BLM RFO paleontology resource staff would then evaluate the site. Should the discovery be evaluated as significant, it will be protected in place until mitigation measures can be developed and implemented according to guidelines set by the BLM. Mitigation measures such as data and fossil recovery may be required by the BLM to prevent impacts to newly identified paleontological resources.

## 4.0 Supporting Information

### 4.1 List of Preparers

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